

YO998426DIV

REMARKS

Claims 18-23 and 25-36 are all the claims pending in the application. Claim 22 is indicated to be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first paragraph and to include all the limitations of the base claim and any intervening claims. Claim 22 has been rewritten in independent form to place it in condition for immediate allowance. Claim 24 has been cancelled as being redundant and new claims 25-36 have been added to further define the invention.

Claims 18-23 stand rejected upon informalities. Claims 18-21 and 23 stand rejected on prior art grounds. Applicants respectfully traverse these rejections based on the following discussion.

I. The 35 U.S.C. §112, First Paragraph, Rejection

Claims 18-23 stand rejected under 35 U.S.C. §112, first paragraph, because claim 18 states that the double-gate conductor is "over" the insulating layer. Claim 18 has been amended to define that the double gate conductor is "on" the insulating layer. In addition, the word "adjacent" has been removed from claim 18 to eliminate any ambiguity regarding the location of the upper insulator. The forgoing claim changes do not narrow the claimed invention and instead merely correct minor language defects. The same features are defined using the same language before and after the claim amendments and therefore the exact same invention is being defined. Thus, it is Applicants' intention that the forgoing claim changes do not narrow the invention defined by the claims. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

II. The Prior Art Rejections

Claims 18-21, and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Taur et al. (US Patent No. 5,646,058) in view of Goto (JP 05-226655). Applicants respectfully traverse this rejection based on the following discussion.

YO998426DIV

A. The Rejection Based on Taur et al. in view of Goto

Applicants respectfully submit that independent claim 18 is patentable over the combination of Taur and Goto because neither reference teaches or suggests a structure that includes a single crystal silicon channel region with accompanying epitaxial silicon source and drain regions. Therefore, as explained in detail below, Applicants submit that independent claim 18 and its associated dependent claims are patentable over the prior art of record.

As shown in Applicants' Figures 2C and 2G, the material that eventually becomes the channel region is initially formed as a single crystal silicon wafer 5 upon which a laminated structure is formed. As shown in Applicants' Figure 2I, the source and drain regions 9 are epitaxially grown from the channel region 5. As explained on page 21, lines 5-10 of the application the quality of the silicon channel 5 is identical to a good quality single crystal bulk silicon since the channel is formed by wafer bonding and not by selective epitaxial growth. With the invention, only the source/drain regions 9 are epitaxially grown. Because the source/drain regions 9 will be degeneratively doped, material defects in the source/drain regions are not as critical.

In Taur, the channel regions and source and drain regions 18 are simultaneously formed in a single epitaxial process as shown in Figure 1C. While there is no English language translation, the drawings of Goto appear to show that the channel region 9 is some type of a patterned material (which would most likely not be a single crystal silicon material.) In addition, the source/drain regions 14 appear to be some type of material that is deposited within openings 13. Therefore, it does not appear that the source/drain regions 14 in Goto could comprise an epitaxial material.

Therefore, it is Applicants' position that prior art of record does not teach or suggest a structure that includes a single crystal silicon channel region with accompanying epitaxial silicon source and drain regions, as defined by independent claim 18. More specifically, independent claim 18 defines "a single crystal silicon channel layer; doped epitaxial silicon drain and source regions connected to said channel layer." Thus, Applicants respectfully submit that independent claim 18 is patentable over the prior art of record. Further, dependent claims 19-21 and 23 are similarly patentable, not only by virtue of their dependency from patentable independent claim

YO998426DIV

18, but also by virtue of the additional features of the invention they define. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

III. Formal Matters and Conclusion

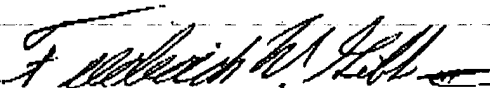
In view of the foregoing, Applicants submit that claims 18-23 and 25-36, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 50-0510.

Respectfully submitted,

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